

ABSTRACT OF THE DISCLOSURE

In a legged mobile robot (1), an elastic member (382) is installed at a position between a second joint (18, 20) connecting a distal end of a leg (2) and a foot (22) and a floor contact end of the foot, and a displacement sensor (70) is installed in a space defined by a top-to-bottom height of the elastic member. With this, it becomes possible to make the displacement sensor including its components such as the converter or the like compact enough to be housed in the elastic member at the limited space of the foot of the legged mobile robot. Further, it is arranged to self-diagnose abnormality of the displacement sensor by utilizing the redundancy of freedom, and also to detect the floor reaction force accurately such that the legged mobile robot can be controlled to walk more stably.